

BS 240 PRO Technical Specifications



BS 240 PRO Compact Robust Chemistry Analyzer

A whole new generation.



SYSTEM FUNCTION

Automatic, Discrete, Random Access, Bench Top
STAT Sample Priority

Throughput: *Constant 240 photometric tests per hour, up to 400 T/H with ISE*

Measuring principles: *Absorbance photometry, turbidimetry, ion selective electrode technology*

Methodology: *End-point, Fixed-time, Kinetic, Optional ISE, Single/Double reagent chemistries, Mono-chromatic / bi-chromatic*

Original system pack reagent ready to use

Close system and open system is optional

REACTION SYSTEM

Reaction Tray: 80 reusable cuvettes

Reaction volume: 100~360μL

Reaction temperature: 37 ± 0.1 by air bath

Cuvette Washing: Washing station with pre-warmed detergent and de-ionized water

OPERATION UNIT

Operation system: Windows 10

Interface: RS-232

REAGENT/SAMPLE HANDLING

Reagent/Sample tray: *50 to 100 positions for reagents and 50 to 100 positions for samples in 24-hour refrigerated compartment (2~12 °C)*

Reagent volume: *R1: 100~200μL, step by 0.5μL
R2: 10~200μL, step by 0.5μL*

Sample volume: 2~35μL, step by 0.1μL

Reagent/Sample Probe: *Liquid level detection, horizontal and vertical collision protection, inventory checking, reagent pre-warming, optional clog detection*

Probe Cleaning: *Automatic washing for interior and exterior
Carry over < 0.05%*

Automatic sample dilution: Pre-dilution and post-dilution

Mixing Unit: Independent mixing bar

CONTROL & CALIBRATION

Calibration modes: *K factor, Linear (two points and multipoints), Logit-Log 4P, Logit-Log 5P, Spline, Exponential, Polynomial, Parabola, Logit-Log3P, Broken line
One key calibrator import function*

Control Rules: Westgard multi-rule, Levey-Jennings, Cumulative sum check, Twin plot

ISE MODULE (OPTIONAL)

Direct method, measuring K+, Na+, Cl

WORKING CONDITION

Power Supply: 200~240V, 50/60Hz, ≤1300VA or 100~130V, 60Hz, ≤1300VA

Dimension: 860 mm (length) × 660 mm (depth) × 550 mm (height)

Weight: 115 kg

Water Consumption: ≤6.5 L/H

OPTICAL SYSTEM

Light Source: Halogen-tungsten lamp

Halogen-tungsten lamp: 12 wavelengths, 340nm, 380nm, 412nm, 450nm, 505nm, 546nm, 570nm, 605nm, 660nm, 700nm, 740nm, 800nm

Absorption range: 0~3.5Abs, resolution 0.0001Abs

Stray Light: 4.9Abs

BUILT IN BAR CODE READER (OPTIONAL)

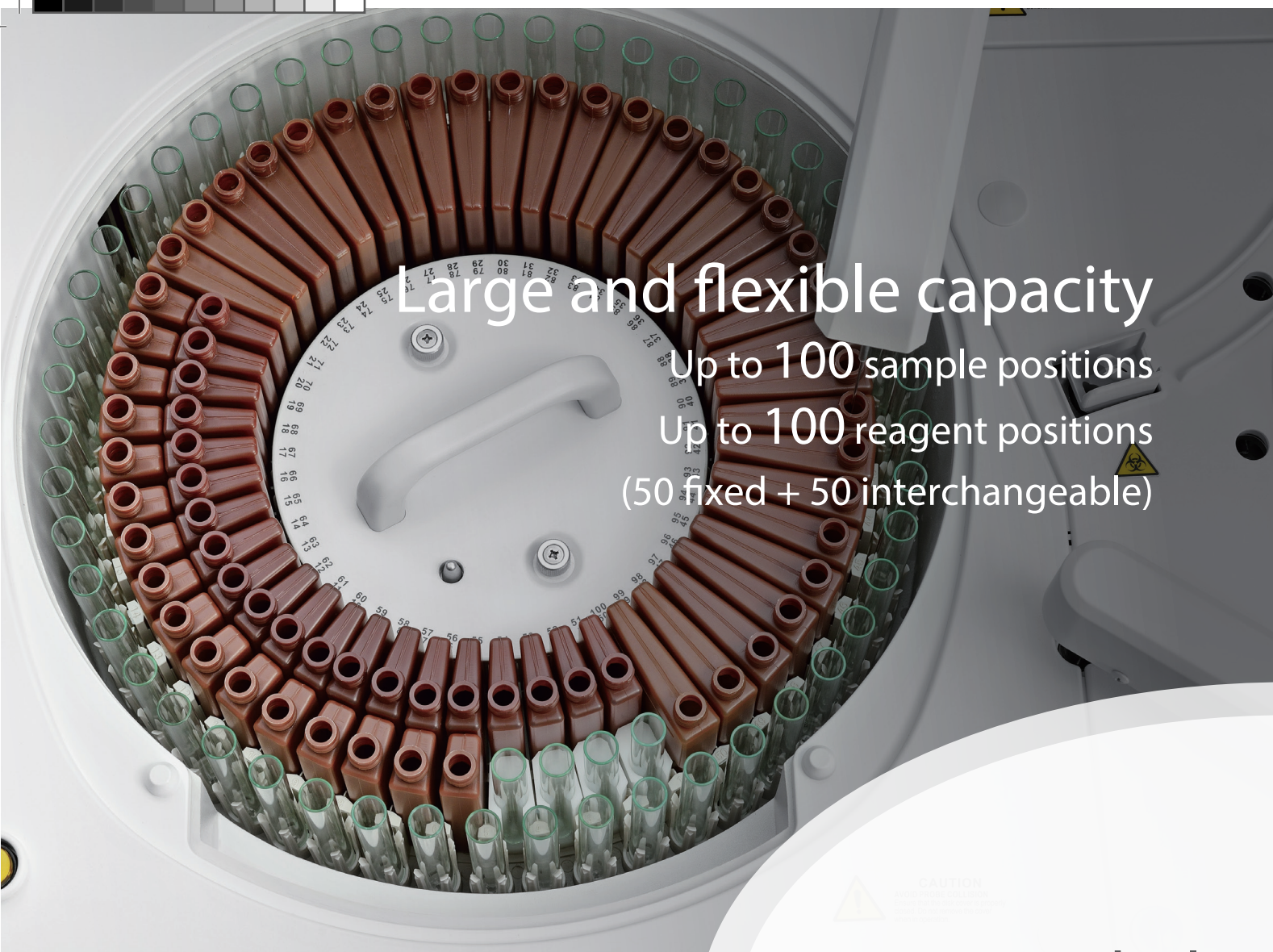
Used for sample and reagent programming Be applicable to various bar code systems of Codabar, ITF (Interleaved Two of Five), code128, code39, UPC/EAN, Code93 Capable to communicate with LIS in bi-directional mode.



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Avantor Performance Materials India Limited

19th Floor, Building No. 5, Tower C, DLF Cyber City, Phase - III, Gurgaon - 122002, Haryana
Tel: +91 124 4656700 email: csdiagnostics@avantorsciences.com



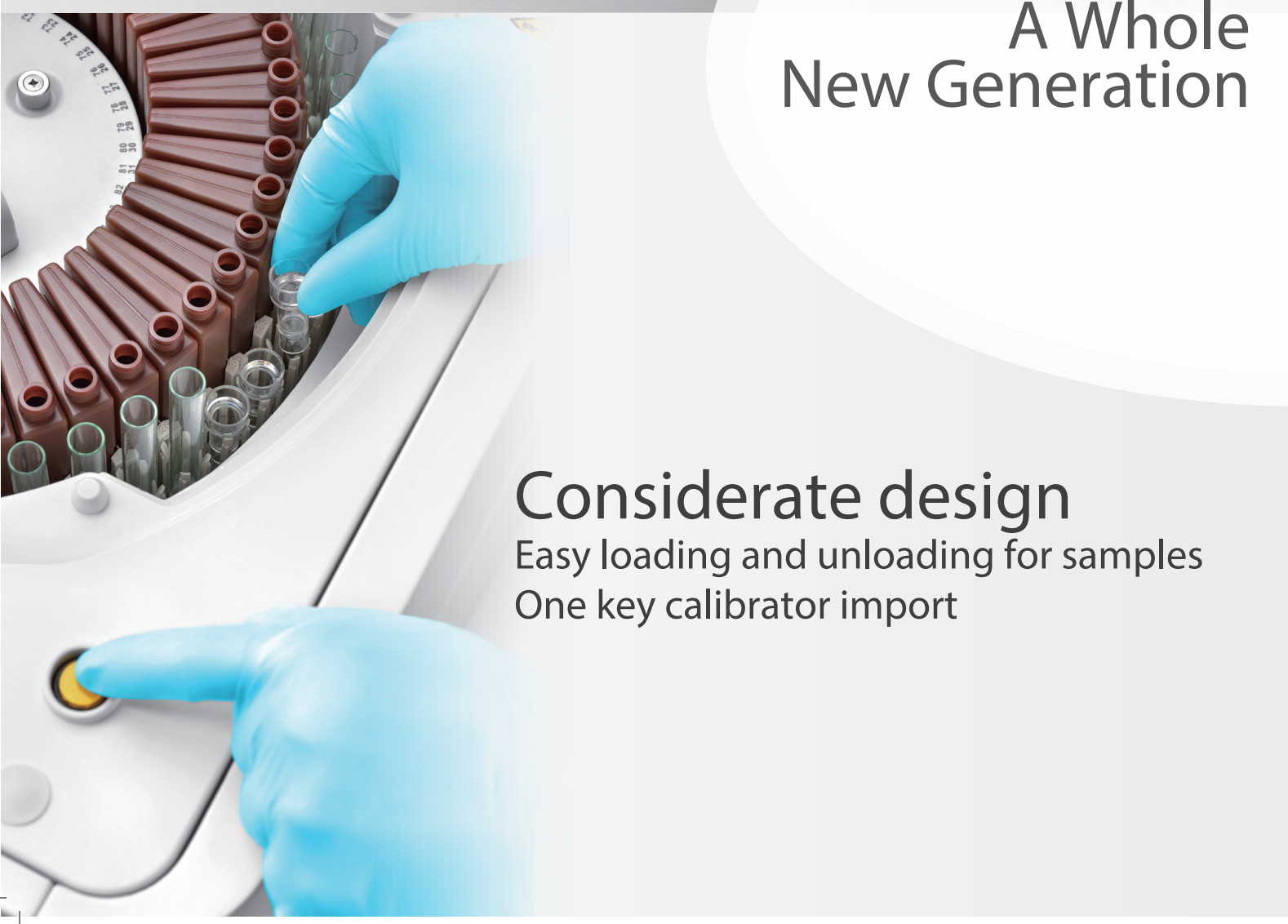
Large and flexible capacity

Up to 100 sample positions
Up to 100 reagent positions
(50 fixed + 50 interchangeable)



Gratings photometer

100 μ L minimum reaction volume



A Whole New Generation

with constant throughput
of 240 photometric T/H

Considerate design

Easy loading and unloading for samples
One key calibrator import



HbA1c smart-sampling function

Onboard hemolysis



Waterfall probe cleaning



Independent mixing bar



Optimized washing station



Built-in barcode reader



Intelligent probe with optional
clog detection



Constant throughput



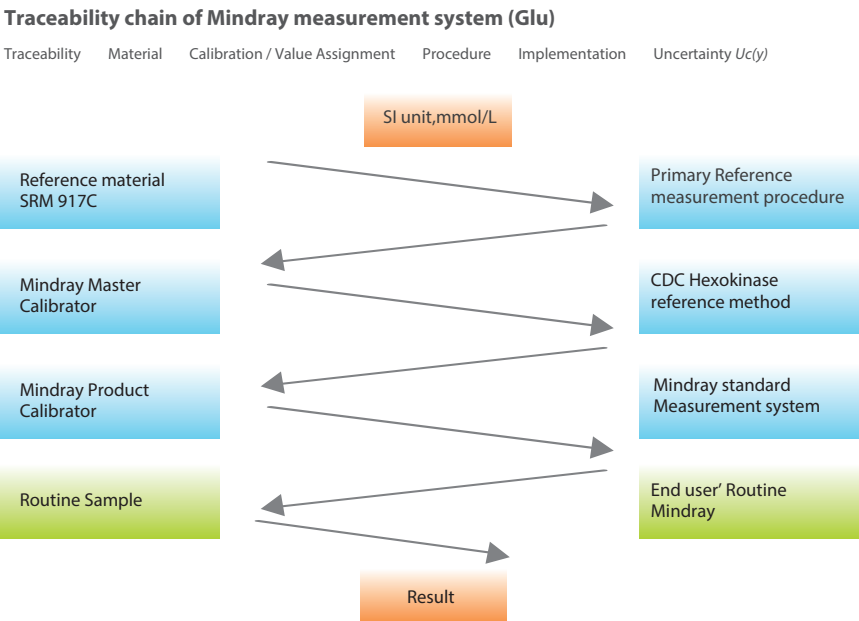
Optional ISE module easy to access



Intuitive software with more
functionalities

Complete traceability process

Complete calibration heirarchy and traceability chain are based on ISO standard (EN/ISO17511) from reference system to routine measurement system.

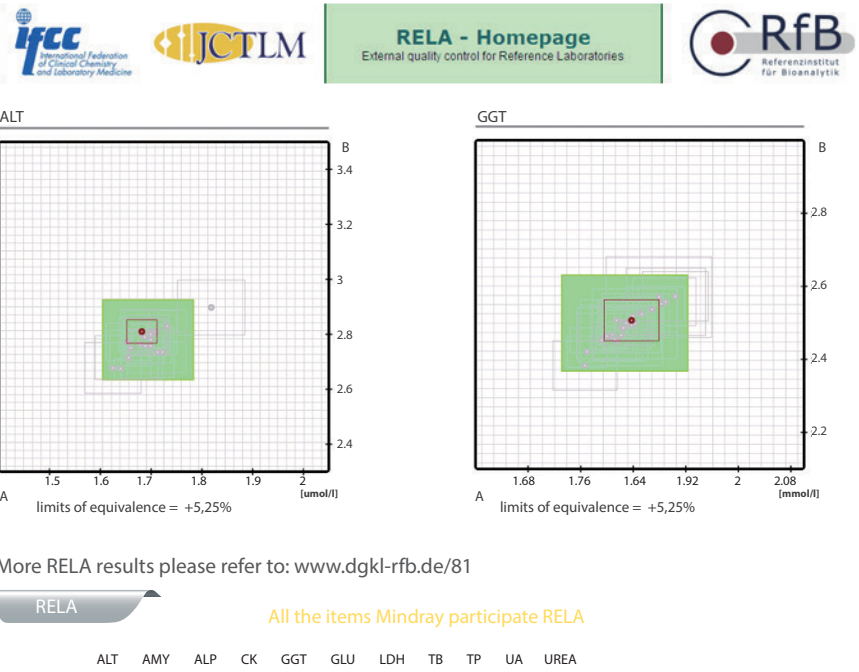


External quality assurance for reference measurement

Mindray participates in RELA (External quality control for reference laboratory).

EQA for Mindray Reference laboratory——RELA

Mindray reference laboratory has passed RELA for 6 consecutive years.



Reagent Menu

Hepatic Panel

- Alanine Aminotransferase (ALT)
- Aspartate Aminotransferase (AST)
- Alkaline Phosphatase (ALP)
- γ-Glutamyl Transferase (γ-GT)
- Direct Bilirubin (D-Bil) DSA Method
- Direct Bilirubin (D-Bil) VOX Method
- Total Bilirubin (T-Bil) DSA Method
- Total Bilirubin (T-Bil) VOX Method
- Total Protein (TP)
- Albumin (ALB)
- Total Bile Acids (TBA)
- Prealbumin (PA)
- Cholinesterase (CHE)

Renal Panel

- Urea (UREA)
- Creatinine (CREA) Modified Jaffe Method
- Creatinine (CREA) Sarcosine Oxidase Method
- Uric Acid (UA)
- Carbon Dioxide (CO2)
- Microalbumin (MALB)
- β2-Microglobulin (β2-MG)
- Cystatin C (CysC)
- Retinol Binding Protein (RBP)

Immune Panel

- Immunoglobulin A (IgA)
- Immunoglobulin G (IgG)
- Immunoglobulin M (IgM)
- Complement C3 (C3)
- Complement C4 (C4)

Diabetes Panel

- Glucose (Glu) GOD-POD Method
- Glucose (Glu) HK Method
- Hemoglobin A1c (HbA1c)
- Fructosamine (FUN)
- β-Hydroxybutyrate (β-HB)

Cardiac panel

- Creatine Kinase (CK)
- Creatine Kinase-MB (CK-MB)
- Lactate Dehydrogenase (LDH)
- α-Hydroxybutyrate Dehydrogenase (α-HBDH)
- Full Range C-Reaction Protein (FR-CRP)

Inorganic & Anemia

- Iron (Fe)
- Ferritin (FER)
- Transferrin (TRF)
- Calcium (Ca)
- Magnesium (Mg)
- Phosphate Inorganic (P)
- Unsaturated Iron Binding Capacity (UIBC)
- Glucose-6-phosphate Dehydrogenase (G6PD)

Lipid Panel

- Total Cholesterol (TC)
- Triglycerides (TG)
- HDL-Cholesterol (HDL-C)
- LDL-Cholesterol (LDL-C)
- Apolipoprotein A1 (ApoA1)
- Apolipoprotein B (ApoB)
- Lipoprotein(a) (Lp(a))

Rheumatism Panel

- C-reactive Protein (CRP)
- Rheumatoid Factor (RF)
- Antibodies Against Streptolysin O (ASO)

Lung Panel

- Adenosine Deaminase (ADA)
- Angiotensin Converting Enzyme (ACE)

Pancreatitis Panel

- α-Amylase (α-AMY)
- Lipase (LIP)